

Claims

1. A change-speed system for a utility vehicle, comprising:
a gear change-speed device operated for change speed in response
5 to an operation of an actuator;
a hydraulic clutch for selectively engaging/disengaging power
transmission to the gear change-speed device;
a current-controlled valve mechanism for feeding pressure oil to
the hydraulic clutch; and
10 a hydraulic clutch controlling portion for controlling oil pressure in
the hydraulic clutch by controlling a value of electric current to the valve
mechanism;
wherein the hydraulic clutch controlling portion is operable to
initiate a disengaging process of the hydraulic clutch based on initiation of
15 the operation of the actuator and operable also to initiate an engaging
process of the hydraulic clutch based on completion of the operation of the
actuator;
wherein said engaging process of the hydraulic clutch includes a
first engaging sub-process for rapidly raising the oil pressure to the
20 hydraulic clutch for a predetermined period and a second engaging
sub-process for gradually raising the oil pressure to the hydraulic clutch
which has been temporarily dropped subsequent to said first sub-process;
and
wherein there is provided a manual setting device for adjusting the
25 value of the electric current to the valve mechanism from the hydraulic
clutch controlling portion in said second engaging sub-process.

2. The change-speed system according to claim 1, wherein
said hydraulic clutch controlling portion includes a first engaging
30 sub-process controlling portion for controlling said first engaging

sub-process and a second engaging sub-process controlling portion for controlling said second engaging sub-process; and

5 said second engaging sub-process controlling portion includes a reference control characteristics generating portion for generating reference control characteristics for controlling the current value to be supplied to the valve mechanism and an offset amount setting portion for setting an offset amount relative to said reference control characteristics in order to adjust said reference control characteristics, in response to an instruction from said manual setting device.

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3. The change-speed system according to claim 2, wherein said offset amount remains constant in said second engaging sub-process.

15 4. The change-speed system according to claim 2, wherein said offset amount is a time factor value which varies over time in said second engaging sub-process.

20 5. The change-speed system according to claim 1, wherein said manual setting device is provided as a special setting mode screen generated by an operation on a switch equipped in a control panel unit with a display.

25 6. The change-speed system according to claim 1, wherein said first engaging sub-process controlling portion includes a shifting time measuring portion for measuring a shifting time period from the initiation of the operation of the actuator to completion thereof and a one-shot time determining portion for determining execution time period for the first engaging sub-process based on said shifting time period.